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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,234	09/29/2003	Nick M. Mitchell	YOR920030485	1886

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EXAMINER
PADMANABHAN, KAVITA

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/674,234	MITCHELL, NICK M.
	Examiner	Art Unit	
	Kavita Padmanabhan	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 September 2003</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-13</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-13</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 September 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   Claims 1-13 are pending.

2.   Claims 1-13 are rejected.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because

reference character "308" in Fig. 3A has been used to designate both EditorManager and

ViewReference. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended replacement

drawing sheet should include all of the figures appearing on the immediate prior version of the

sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing

date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

4.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because

reference characters "306" and "308" in Fig. 3A have both been used to designate

EditorManager, which is a change-proxy. Corrected drawing sheets in compliance with 37 CFR

1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference character 308 of Fig. 3A. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6.   The abstract of the disclosure is objected to because the word "location" at line 8 of the abstract should be changed to --locating--. Correction is required. See MPEP § 608.01(b).

7.   The disclosure is objected to because of the following informalities:

Reference character 308 of Fig. 3A is not mentioned in the specification.

Appropriate correction is required. The citations above are not meant to be exhaustive,

and are provided as examples. The applicant is advised to correct other similar errors as required

throughout the specification.

Claim Objections

8.   **Claim 10** is objected to because of the following informalities:

There is an extra period at the end of claim 10.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10.   **Claims 1-13** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 1 recites the limitation "the running application" in 3-4 of the claim. There is

insufficient antecedent basis for this limitation in the claim. **Claims 12 and 13** recite similar

limitations and are similarly rejected, as are claims 2-11, which depend from claim 1.

The examiner will apply prior art to this claim as best understood in light of the above

rejection.

Claim Rejections - 35 USC § 101

11.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12.   **Claims 1 and 3-13** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a test of whether the invention is categorized as a process, machine, manufacture or composition of matter and if the invention produces a useful, concrete and tangible result. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) are found to be non-statutory subject matter. For a method claim to pass muster, the recited process must produce a useful, concrete and tangible result.

In the instant case, **Claims 1 and 3-11** recite a method but the method claimed appears to be directed towards an abstract idea and does not produce a useful, concrete and tangible result.

For example, **claim 1** results in using located structural changes to describe, characterize, and identify changes to a region as a whole. This is merely an abstract idea and does not conclude in an actual result. **Claims 3-11** are similarly nonstatutory. Claim 2 appears to overcome the deficiency of claim 1 from which it depends.

Claim 12 recites a computer readable medium comprising instructions for performing a method that is substantially the same as the method recited in claim 1, and is similarly nonstatutory.

Claim 13 recites an information processing system comprising a processor and memory for storing instructions for performing a method that is substantially the same as the method recited in claim 1. Reciting a processor and memory storing instructions that perform a method

is equivalent to reciting a computer implemented method as it is merely form over substance. As a result, claim 13 is nonstatutory for the same reasons as claim 1 as explained above.

The examiner will apply prior art to these claims as best understood, with the assumption that applicant will amend to overcome the stated 101 rejections.

Claim Rejections - 35 USC § 102

13.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14.   **Claims 1-13** are rejected under 35 U.S.C. 102(b) as being anticipated by **Bournas et al.** (US 6,061,679, hereinafter "Bournas").

In regards to **claim 1**, **Bournas** teaches a method of determining how a region of a data structure in an application evolves, comprising:

–   periodically traversing selected subgraphs of the region in the running application **(Bournas, col. 4, lines 45-47, 61-65, col. 7, line 66 – col. 8, line 6, col. 8, lines 39-66 – searching the data structure to determine the placement of the new key mask whenever an add request is made constitutes traversing subgraphs of a data structure periodically)**;

–   locating structural changes in the subgraphs **(Bournas, col. 8, lines 39-66 – searching the data structure to locate where to place the new key mask constitutes locating**

structural changes to the subgraphs, in that wherever the key mask is to be added is

located and a change is made to that particular subgraph); and

– using these structural changes to describe, characterize, and identify changes to the region

as a whole **(Bournas, col. 7, line 66 – col. 8, line 6 – the depicted changes to the**

subgraphs, for example an addition, describe, characterize, and identify changes in

the data structure).

In regards to **claim 2, Bournas** teaches the method of claim 1 further comprising reporting

the region changes to an analysis agent **(Bournas, col. 9, lines 12-13, Fig. 4b, step 430).**

In regards to **claim 3, Bournas** teaches the method of claim 1 used to detect one of the

following changes to a region: additions to a region; removals from a region; and internal

restructuring within a region **(Bournas, col. 8, lines 5-6).**

In regards to **claim 4, Bournas** teaches the method of claim 1 wherein the selected subgraphs

to traverse are derived by

– computing the region key for the constituents of the data structure **(Bournas, col. 8, lines**

39-66); and

– identifying the unique set of paths from owner proxy to change proxy as the set of

traversals **(Bournas, col. 8, lines 39-66).**

In regards to **claim 5, Bournas** teaches the method of claim 4 wherein the traversals are shortened by

- identifying a subpath of the path which is unlikely to change as the region evolves **(Bournas, col. 8, lines 39-66 – if receive a request to add a key mask, which would be located at a particular subpath, the other subpaths are therefor unlikely to change, since they are not the target of the change)**; and

- trimming the path to exclude the parts of the path which are unlikely to change **(Bournas, col. 8, lines 39-66 – since the subpath leading to where the change is made is traversed, the other subpaths are logically trimmed/excluded)**.

In regards to **claim 6, Bournas** teaches the method of claim 1 wherein determining how a region of a data structure in an application evolves is a continuous and adaptive process **(Bournas, col. 4, lines 45-47, col. 7, line 67 – col. 8, line 2)**.

In regards to **claim 7, Bournas** teaches the method of claim 6 wherein the process is made continuous and adaptive by

- identifying a set of desired updates **(Bournas, col. 8, lines 5-6)**; and

- adjusting the period in between traversals based on whether the desired updates have been witnessed **(Bournas, col. 7, line 66 – col. 8, line 6 – the traversals occur when a change is made)**.

In regards to **claim 8**, **Bournas** teaches the method of claim 6 wherein the process is made continuous and adaptive by

- identifying a set of desired updates **(Bournas, col. 8, lines 5-6)**; and

- adjusting the frequency of sampling any one traversal based on whether that traversal has detected desired updates **(Bournas, col. 7, line 66 – col. 8, line 6, col. 8, lines 39-66)**.

In regards to **claim 9**, **Bournas** teaches the method of claim 6 wherein the process is made continuous and adaptive by implementing one of the following procedures based on the result of performing a traversal: adding new traversals; removing existing traversals; and modifying the path of existing traversals **(Bournas, col. 8, lines 39-66)**.

In regards to **claim 10**, **Bournas** teaches the method of claim 1 further comprising updating qualitative characterizations of the regions under analysis based on structural changes to the regions as a whole **(Bournas, col. 8, lines 39-66, col. 9, lines 40-45 – updating the subgraphs based on the data structure constitutes updating qualitative characterizations)**.

In regards to **claim 11**, **Bournas** teaches the method of claim 1 further comprising updating quantitative characterizations of the regions under analysis based on structural changes to the regions as a whole **(Bournas, col. 8, lines 39-66, col. 9, lines 40-45 – updating the subgraphs based on the data structure constitutes updating quantitative characterizations as depicted by numbers of subgraphs, keymasks, etc, which are quantitative measures)**.

Claims 12 and 13 are rejected with the same rationale given for claim 1.

Conclusion

15.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Kavita Padmanabhan** whose telephone number is **571-272-**

8352. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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UYEN LE
PRIMARY EXAMINER